

## Rotation: Advanced Cardiomyopathy and Heart Transplant Service - (CHF-TX 2)

**Director:** Dr. Stuart Russell

**Faculty:** Drs. Russell, Judge, Barouch, Kasper, Najjar, Wittstein

**Standard Rotation Hours:** Mon - Fri, 8am to 7 pm; Every other Sat and Sun 8 am to 3 pm.

### A. CHF/Transplant: Patient Care

	<b>Principal Educational Goals</b>	<b>Learning Activities</b>	<b>Evaluation Methods</b>
1.	Ability to obtain a complete medical history, perform a careful and accurate examination with emphasis on the cardiac exam, and review charts and pertinent records.	DPC, AR, IL	AE
2.	Ability to write a concise evaluation, assess the cardiovascular risk of the patient and make therapeutic decisions and proper interventions based on patient preferences, scientific evidence, and sound clinical judgment.	DPC, AR, CAC, EC, ECG, DSP, NC, FS, IL	AE
3.	Effectively evaluate and manage patients with complex cardiac illnesses, particularly, congestive heart failure, ventricular assist device and cardiac transplantation patients.	DPC, AR, FS, CAC, EC, HR, DSP, CC	AE
4.	Ability to risk stratify patients after being evaluated by echocardiography, cardiac stress test, coronary angiograms, nuclear cardiovascular procedures and other invasive and non-invasive procedures.	EC, ECG, CAC, HR, IC, IL, CC	AE
5.	Ability to manage patients who have had left and right catheterization, heart transplantation and devices.	DPC, HR, CAC, CC, FS	AE, DSP
6.	Effectively direct the team performing CPR and advance cardiac life support in heart failure and transplant service.	DPC, EP, IL	AE
7.	Ability to manage complications from invasive and heart transplantation related procedures.	DPC, FS, CAC, IC	AE
8.	Ability to participate in behavior modification and strategies to educate patients and other health professionals in the management of heart transplant and heart failure.	DPC, AR, PCF, ACS	AE
9.	Participation in the discussion of end-of-life issues with patients and their families.	DPC, FS, EI	AE, PR
10.	Participation in all non-invasive and invasive cardiovascular procedures using the proper technique and under the supervision of a teaching faculty. Observe heart transplantation operation and organ procurement.	DPC, FS	AE, DSP

### B. CHF/Transplant: Medical Knowledge

	<b>Principal Educational Goals</b>	<b>Learning Activities</b>	<b>Evaluation Methods</b>
1.	Familiarity with the newest basic science concepts and mechanisms of heart failure and transplantation.	CC, RC, NC, JC	AE, ECR
2.	Familiarity with current medical literature, clinical trials, and evidence based medicine in heart failure and transplantation.	IL, JC, CC	AE
3.	Familiarity with the broad spectrum of heart failure and transplantation.	IL, CC, NC, PR	AE, ECR
4.	Familiarity with the pathophysiologic principles of heart failure and	IL, NC, HR	AE, DSP

	transplantation.		
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### C. CHF/Transplant: Interpersonal Skills and Communication

	Principal Educational Goals	Learning Activities	Evaluation Methods
1.	Communicate effectively the consult findings with physician colleagues and other members of the health care team in a timely fashion to assure a comprehensive patient care.	DPC, AR, PC	AE, PR
2.	Present professional findings to patient and family members in a compassionate and informative manner.	DPC, AR	AE, PR
3.	Provide educational instructions and other learning tools to patients to reinforce behavioral modification.	DPC, AR	AE, PR

### D. CHF/Transplant: Professionalism

	Principal Educational Goals	Learning Activities	Evaluation Methods
1.	Interact professionally with patients, patients' family, colleagues, and other members of the health care team.	DPC, AR, PC	AE, PR
2.	Appreciation of the cultural, spiritual and social context of wellness and illness.	DPC, AR, EI	AE

### E. CHF/Transplant: Practice -Based Learning and Improvement

	Principal Educational Goals	Learning Activities	Evaluation Methods
1.	Commitment to scholarship and the use of evidence based cardiovascular medicine.	JC, RC, AR	FP, PR
2.	Broad reading of the cardiovascular literature and access and research of Medline and internet tools.	JC, RC, AR	FP, PR

### F. CHF/Transplant: Systems-Based Practice

	Principal Educational Goals	Learning Activities	Evaluation Methods
1.	Understand the complexities of cardiovascular disease patients and utilize the multidisciplinary resources necessary to care for them.	DPC, AR, GR	AE
2.	Collaborate with other member of the health care team to assure comprehensive cardiac care.	DPC, AR	AE
3.	Understand the system complexities in invasive and noninvasive cardiology.	DPC, AR, GR	AE
4.	Willingness to learn by participation in ward rounds, teaching conferences and other educational activities.	DPC, AR	AE
5.	Effective utilization of risk stratification using evidence-based medicine.	DPC, AR, NC, IL	AE

6.	Develop effective communication with referring physician, health care team, patient and their family, regarding purpose and findings of the consult.	DPC, AR	AE
7.	Expand learning in outpatient ultrasound and nuclear cardiology to optimize understanding of patients risk stratification.	DPC, AR, EC	AE
8.	Consideration of cost effectiveness and outcome measurements of tests and interventions associated with consultations.	DPC, AR, GR	AE

## Objectives and expectations on this rotation (advanced elective rotation)

This is an advanced rotation in the management of patients with acute and chronic heart failure due to a variety of causes. Management of patients with advanced heart failure, including heart transplantation, will be covered. The Biopsy 1 month is a prerequisite. The duration of this rotation will be 6 months spread over 1 year. By the end of the rotation you should be able to:

- Demonstrate an advanced understanding of the causes of heart failure.
- Appropriately evaluate and manage patients with cardiomyopathy (dilated, hypertrophic and restrictive) in the inpatient and outpatient settings.
- Demonstrate an advanced understanding of the pathophysiology of heart failure at the basic science level including molecular changes and adaptations.
- Treat patients with acute and chronic heart failure in both the inpatient and outpatient settings including special populations such as peripartum cardiomyopathy and diastolic dysfunction.
- Treat patients with advanced heart failure including, hemodynamically tailored therapy, biventricular pacing and LVAD utilization.
- Care for patients undergoing heart transplantation including indications and contraindications, perioperative management of donors and recipients and long-term management including rejection, infection, and accelerated graft arteriosclerosis.
- Gradually assume Attending duties on the Cardiomyopathy and heart Transplant Service.
- Gradually provide consultative care for patients referred by other physicians for management of these same conditions.
- Provide end-of-life care for patients without other options
- Produce evidence of scholarly productivity in the fields of cardiomyopathy, heart failure or heart transplantation at a clinical or basic science level.

## Learning Activities

- Right heart catheterization and endomyocardial biopsy.
- History and physical examination of patients with heart failure.
- Interpretation of endomyocardial biopsy including cardiomyopathies and rejection.
- Cardiopulmonary exercise stress testing.
- Attending responsibilities for the Service.
- End-of-life care for end-stage patients without options.

## Content and methods

The content is learned through active participation on the clinical service.

- Tuesday 4PM Heart transplant meeting.
- Performance of endomyocardial biopsies.
- Review of endomyocardial biopsy specimens.
- Outside reading of appropriate ACC/AHA Guidelines.
- Development of the Fellow's curriculum file.
- Outside reading of Heart and Lung Transplantation by Baumgartner, Reitz, Kasper and Theodore (copy provided).
- Participation in either Heart Failure Society of America or the International Society of Heart Lung Transplantation annual scientific meetings (abstract presentation).

- 1 week per month will be devoted to research in the fields of cardiomyopathy, heart failure or heart transplantation.
- Participation in 10 heart transplant procedures including evaluation of donor and recipient operation.

### **Supervision:**

You are supervised by the Procedure Attending for cases in the catheterization lab and by the Service Attending in all other circumstances. In the rare event that these attendings are not available, the Director of the Service, Dr Stuart Russell, should be contacted.

**Evaluation Process:** *(fellows will be evaluated on each rotation using a competency-based system on E-Value).*

You will be evaluated by the Procedure Attendings in the catheterization laboratory (Drs Russell, Hare and Kasper) regarding procedural skills. You will be evaluated by the Attending on the Service regarding clinical skills not related to the catheterization laboratory. The Attendings will evaluate what you do as you care for patients and provide immediate feedback through discussion.

*Specifically, you will be evaluated on the following areas:*

- Your ability to perform right heart catheterization and endomyocardial biopsy and your knowledge of the indications and complications. The Attending will be present for the entire case and question you before, during and after the case. For fellows without an interest in providing this service upon completion of fellowship, an advanced understanding of the indications, contraindications and results is still expected although technical competency need not be demonstrated.
- Your understanding of the diagnosis, evaluation and management of patients with heart failure and cardiomyopathy. You will be evaluated by the Attending through your discussion of cases and care of patients. Advanced knowledge is expected.
- Your understanding of the management of patients following heart transplantation. Same as number 2. Advanced knowledge is expected.
- Endomyocardial biopsy interpretation including recognition of various cardiomyopathies. The Service Attending will evaluate you during the daily review of endomyocardial biopsies.